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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,717	03/22/2004	Oleg M. Efimov	PD-03W152	2637

7590 09/08/2004  
Patent Docket Administration  
P.O. Box 902, Bldg. E04/MS N119  
2000 E. El Segundo Boulevard  
El Segundo, CA 90245-0902

EXAMINER
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SHAFFER, RICKY D

ART UNIT	PAPER NUMBER
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2872

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/806,717

Applicant(s)

EFIMOV ET AL.

Examiner

Ricky D. Shafer

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 03/22/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 14-21 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Toyohara ('444).

Toyohara discloses an optical system comprising circulator means [(2), (12)] for routing a first signal from a first port [(2a), (12a)] to a second port [(2b), (12b)] and a second signal from the second port to a third port [(2c), (12c)], a third signal from the third port to a fourth port [(2d), (12d)] and a fourth signal from the fourth port to the first port; first reflective means [element (9) or element (19) adjacent element (7) or (17), respectively] for reflecting a signal output by the second port back into the second port; and second reflective means [element (10) or element (20) adjacent element (8) or (18), respectively] for reflecting a signal output by the fourth port back into the fourth port; wherein the first and second reflective means inherently includes means [the materials/layers of the multi-layered dielectric (interference) film or (the pitch/period of the (Bragg) grating] for effecting spectral control of the signal outputted.

Note Figures 2 and 3 along with the associated description thereof.

3. Claims 1-3, 7-9, 14, 15, 18, 19, 22, 26-28, 31, 32, 35, 36 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent ('417).

Japanese Patent ('417) discloses an optical system comprising circulator means (13) for routing a first signal from a first port (P1) to a second port (P2) and a second signal from the

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second port to a third port (P3), a third signal from the third port to a fourth port (P4) and a fourth signal from the fourth port to the first port; first reflective means [element (9) of amplifier (20a)] for reflecting a signal output by the second port back into the second port; second reflective means [element (9) of amplifier (20b)] for reflecting a signal output by the fourth port back into the fourth port; first means [element (22) adjacent amplifier (20a)] for adjusting transmittance of the signal output by the second port disposed between the second port and the first reflective means; and second means [element (22) adjacent amplifier (20b)] for adjusting transmittance of the signal output by the fourth port disposed between the fourth port and the second reflective means, wherein element (22) inherently includes means for effecting spectral control of the signal outputted due to the fact that element (22) eliminates/transmits selected wave-length bands. Note Figure 2 along with the associated description thereof.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-6, 10, 12, 23-25, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent ('417) in view of Van Deventer ('016) or Koyano et al ('081).

Japanese Patent ('417) discloses all of the subject matter claimed, note the above explanation, except for a polarization rotation element disposed between the respective reflective means and the respective port.

Van Deventer and Koyano et al each teach it is well known to use a polarization rotation element (Retarder/Rotator) between a mirror/reflector and an amplifier of a circulator port in the

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same field of endeavor for the purpose of suppressing noise/(unwanted signals) to improve the optical amplification of a desired signal.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the respective amplifier branch of Japanese Patent ('417) to include a polarization rotation element and position said polarization rotation element between the mirror/reflector and amplifier as taught by Van Deventer or Koyano et al in order to suppress noise/(unwanted signals) to improve the optical amplification of the desired signal and performance of the optical system.

6. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent ('417) in view of Skolnick et al ('309) or Zhang et al ('861).

Japanese Patent ('417) discloses all of the subject matter claimed, note the above explanation, except for means for adjusting the position of the reflective means.

Skolnick et al and Zhang et al each teach it is known to use mirror adjusting means in the same field of endeavor for the purpose of suppressing noise (unwanted signals) and/or increasing optical coupling/transmission.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the reflective means of Japanese Patent ('417) to include a reflective adjusting means as taught by Skolnick et al or Zhang et al in order to suppress noise/(unwanted signals) and/or increasing optical coupling/transmission so as to improve the optical amplification of the desired signal and performance of the optical system.

7. Claims 16, 17, 20, 21, 33, 34, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent ('417) in view of Isshiki (306).

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Japanese Patent ('417) discloses all of the subject matter claimed, note the above explanation, except for explicitly stating that the means for effecting spectral control is a Bragg grating or interference filter.

Isshiki teaches it is well known to use Bragg gratings or interference filters in the same field of endeavor for the purpose of effecting/providing spectral control of signals.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the optical filter (element 22) of Japanese Patent ('417) to include a Bragg grating or interference filter as taught by Isshiki in order to eliminate/transmits selected wave-length bands of interest.

8. The disclosure is objected to because of the following informalities:

The status of copending U.S. Patent Application, found on page 2 and 6 of the specification, requires updating as well as providing the proper title of said application.

Appropriate correction is required.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ricky D. Shafer whose telephone number is (571) 272-2320.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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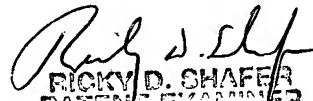
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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RDS

September 06, 2004

  
RICKY D. SHAFER  
PATENT EXAMINER  
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